Bonneville Power Administration
Fish and Wildlife Program FY98 Watershed Proposal Form

Section 1. General administrative information

Title **Evaluate Return Flow Recovery**

Bonneville project number, if an ongoing project 8053

Business name of agency, institution or organization requesting funding
Roza-Sunnyside Board of Joint Control

Business acronym (if appropriate) RSBOJC

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
CH2M Hill	3190 George Washington Way, Suite B	Richland, WA 99352	R.V. Haapala

NPPC Program Measure Number(s) which this project addresses.

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

Subbasin.
Lower Yakima River

Short description.
Evaluate the feasibility of recovering water from the Granger Drain for reuse in the irrigation distribution system.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish		Construction	X	Watershed
*	Resident fish		O & M		Biodiversity/genetics
*	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	*	Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	*	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.
Water quality, water supply, reuse, fish survival, turbidity

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Evaluate Feasibility of Drain Water Reuse	a	Conduct a feasibility study to evaluate the feasibility of reusing drain water from the Granger Drain for irrigation purposes

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	1/1998	12/1998	
			TOTAL 100.00%

Schedule constraints.
No constraints have been identified that would affect the schedule.

Completion date.
1998

Section 5. Budget

FY99 budget by line item

Item	Note	FY98
Personnel	RSBOJC Staff	$5,000
Fringe benefits		$2,500
Supplies, materials, non-expendable property		
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	
Travel		
Indirect costs	Office overhead	$ 500
Subcontracts	Feasibility Study by Consultant	$27,000
Other		
TOTAL		$35,000

Outyear costs

Outyear costs	FY99	FY00	FY01	FY02
Total budget				
O&M as % of total				

Section 6. Abstract

The irrigated lands within the Roza-Sunnyside Board of Joint Control (RSBOJC) service area are drained by a network of major drainage waterways. These waterways represent a potential source of water that could be reused for irrigation. The proposed return flow recovery program would enhance the irrigation water supply for the RSBOJC while reducing the quantity of sediment discharged to the Yakima River.

With adequate funding, the feasibility study could be done during 1998. If the concept is found to be feasible, the water supply and quality improvements could be implemented as soon as 1999. The success of the program would be measured as part of the RSBOJC water quality monitoring program. The presence of constituents such as turbidity and suspended solids in the water returning to the Yakima River are expected to diminish when the return flow recovery systems are constructed.

Section 7. Project description

a. Technical and/or scientific background.

The water quality of the Yakima River has been evaluated by many agencies. Those studies conclude that the low flow rates and high levels of turbidity that exist at certain times of the year are detrimental to fish and wildlife. Several studies and on going data collection programs identify the Granger Drain as a significant source of suspended sediments.

One specific site has been identified as a possible location for the proposed return flow recovery system. Additional sites have been tentatively identified and would be evaluated at a later time.

b. Proposal objectives.

It is the objective of the return flow recovery system to improve the quality of water returning to the Yakima River while increasing the supply of water available to the RSBOJC. The program has the potential of making significant improvements in the water quality of the Granger Drain and the Yakima River.

The success of the return flow recovery system can be monitored by expanding the agency's water quality program. Much background data has already been collected and will serve as a benchmark to measure the improvements.

c. Rationale and significance to Regional Programs.

The rationale behind the return flow recovery system is a standard practice in many areas including the Yakima Valley. Cost and negative effects of reusing sediment laden water have caused some return flow recovery proposals to be deferred.

d. Project history

The proposed return flow recovery system represents an expansion of practices that have been in place on a smaller scale for many years. Financial constraints currently limit the ability of the RSBOJC to evaluate the feasibility of the recovery system.

e. Methods.

Evaluation of the feasibility of the return flow recovery system for the Granger Drain will be done by a consultant when funds are available. The study will take water supply, water quality, impact to the Granger Drain, and economics into consideration. The project could proceed in 1998.

f. Facilities and equipment.

The administrative work needed to oversee the return flow recovery system feasibility study is similar to the type of work regularly performed by the RSBOJC staff. It is anticipated that a consultant will be used for most of the work to complete the feasibility study.

g. References.

CH2M HILL, 1975. Agricultural Return Flow Management in the State of Washington. Prepared for Washington State Department of Ecology.

Department of Ecology, 1990. Statewide Water Quality Assessment 350 (B) Report, State of Washington.

USGS, 1976. Sediment Transport by Irrigation Return Flows in the Lower Yakima River Basin, Washington. Open File Report 78-946.

Section 8. Relationships to other projects

The return flow recovery system feasibility study is related to efforts currently underway and proposed to improve the quality of water in the lower reaches of the Yakima River. This project very specifically links to and depends upon the RSBOJC water quality monitoring program. It is also closely tied to the return flow improvement and waterway buffer strip improvement programs. The water quality improvements that will result will be complementary to the programs done by others in the Yakima Basin.

Section 9. Key personnel

The work will be managed by RSBOJC staff. A consultant will be retained to complete the feasibility study.

Section 10. Information/technology transfer

The project is expected to serve as a demonstration of the benefits that can be achieved by managing the quantity and quality of water that returns to irrigation and drainage waterways as a source of supply. This concept could be applied to many other irrigation and drainage projects.